



# STATE OF MONTANA

## INVITATION FOR BID (IFB)

(THIS IS NOT AN ORDER)

<b>IFB Number:</b> IFB0810033-JG	<b>IFB Title:</b> Inductively Coupled Plasma – Mass Spectrometer
<b>IFB Due Date and Time:</b> Tuesday May 27 <sup>th</sup> , 2008 2 p.m., Local Time	<b>Number of Pages:</b> 19

### ISSUING AGENCY INFORMATION

<b>Procurement Officer:</b> Jennifer Garza	<b>Issue Date:</b> Monday May 5 <sup>th</sup> , 2008
Department of Public Health & Human Services Budget & Financial Services Division Central Purchasing Office 111 N Sanders St, Rm 8 Helena MT 59601	<b>Phone:</b> (406) 444-2851 <b>Fax:</b> (406) 444-7358 <b>TTY Users, Dial 711</b>  <b>Website:</b> <a href="http://gsd.mt.gov/">http://gsd.mt.gov/</a>

### INSTRUCTIONS TO BIDDERS

<b>COMPLETE THE INFORMATION BELOW AND RETURN THIS PAGE WITH YOUR BID AND ANY REQUIRED DOCUMENTS TO THE ADDRESS LISTED ABOVE UNDER "ISSUING AGENCY INFORMATION."</b>	<b>Mark Face of Envelope/Package:</b>  <b>IFB Number:</b> IFB0810033-JG <b>IFB Due Date:</b> 5/27/08, 2 pm
	<b>Special Instructions:</b> Questions pertaining to this IFB must be submitted via email to <a href="mailto:jgarza@mt.gov">jgarza@mt.gov</a> by 5pm on Monday 5/12/08. Answers will be posted with the IFB on our website <a href="http://gsd.mt.gov/osbs/Default.asp">http://gsd.mt.gov/osbs/Default.asp</a> by 5 pm on Wednesday 5/14/08.

### BIDDERS MUST COMPLETE THE FOLLOWING

<b>Payment Terms:</b> Net 30 days	<b>Delivery Date:</b>
<b>Bidder Name/Address:</b>	<b>Authorized Bidder Signatory:</b>  (Please print name and sign in ink)
<b>Bidder Phone Number:</b>	<b>Bidder FAX Number:</b>
<b>Bidder E-mail Address:</b>	
<b>IMPORTANT: SEE STANDARD TERMS AND CONDITIONS</b>	

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## Standard Terms and Conditions

**By submitting a response to this invitation for bid, request for proposal, limited solicitation, or acceptance of a contract, the vendor agrees to acceptance of the following Standard Terms and Conditions and any other provisions that are specific to this solicitation or contract.**

**ACCEPTANCE/REJECTION OF BIDS, PROPOSALS, OR LIMITED SOLICITATION RESPONSES:** The State reserves the right to accept or reject any or all bids, proposals, or limited solicitation responses, wholly or in part, and to make awards in any manner deemed in the best interest of the State. Bids, proposals, and limited solicitation responses will be firm for 30 days, unless stated otherwise in the text of the invitation for bid, request for proposal, or limited solicitation.

**ACCESS AND RETENTION OF RECORDS:** The contractor agrees to provide the department, Legislative Auditor, or their authorized agents, access to any records necessary to determine contract compliance. (Section 18-1-118, MCA). The contractor agrees to create and retain records supporting the services rendered or supplies delivered for a period of three years after either the completion date of the contract or the conclusion of any claim, litigation, or exception relating to the contract taken by the State of Montana or third party.

**ALTERATION OF SOLICITATION DOCUMENT:** In the event of inconsistencies or contradictions between language contained in the State's solicitation document and a vendor's response, the language contained in the State's original solicitation document will prevail. Intentional manipulation and/or alteration of solicitation document language will result in the vendor's disqualification and possible debarment.

**ASSIGNMENT, TRANSFER AND SUBCONTRACTING:** The contractor shall not assign, transfer or subcontract any portion of the contract without the express written consent of the department. (Section 18-4-141, MCA.)

**AUTHORITY:** The attached bid, request for proposal, limited solicitation, or contract is issued under authority of Title 18, Montana Code Annotated, and the Administrative Rules of Montana, Title 2, chapter 5.

**COMPLIANCE WITH LAWS:** The contractor must, in performance of work under the contract, fully comply with all applicable federal, state, or local laws, rules and regulations, including the Montana Human Rights Act, the Civil Rights Act of 1964, the Age Discrimination Act of 1975, the Americans with Disabilities Act of 1990, and Section 504 of the Rehabilitation Act of 1973. Any subletting or subcontracting by the contractor subjects subcontractors to the same provision. In accordance with section 49-3-207, MCA, the contractor agrees that the hiring of persons to perform the contract will be made on the basis of merit and qualifications and there will be no discrimination based upon race, color, religion, creed, political ideas, sex, age, marital status, physical or mental disability, or national origin by the persons performing the contract.

**CONFORMANCE WITH CONTRACT:** No alteration of the terms, conditions, delivery, price, quality, quantities, or specifications of the contract shall be granted without prior written consent of the State Procurement Bureau. Supplies delivered which do not conform to the contract terms, conditions, and specifications may be rejected and returned at the contractor's expense.

**DEBARMENT:** The contractor certifies, by submitting this bid or proposal, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction (contract) by any governmental department or agency. If the contractor cannot certify this statement, attach a written explanation for review by the State.

**DISABILITY ACCOMMODATIONS:** The State of Montana does not discriminate on the basis of disability in admission to, access to, or operations of its programs, services, or activities. Individuals who need aids, alternative document formats, or services for effective communications or other disability related

accommodations in the programs and services offered are invited to make their needs and preferences known to this office. Interested parties should provide as much advance notice as possible.

**FACSIMILE RESPONSES:** Facsimile responses will be accepted for invitations for bids, small purchases, or limited solicitations ONLY if they are completely received by the State Procurement Bureau prior to the time set for receipt. Bids, or portions thereof, received after the due time will not be considered. Facsimile responses to requests for proposals are ONLY accepted on an exception basis with prior approval of the procurement officer.

**FAILURE TO HONOR BID/PROPOSAL:** If a bidder/offeror to whom a contract is awarded refuses to accept the award (PO/contract) or fails to deliver in accordance with the contract terms and conditions, the department may, in its discretion, suspend the bidder/offeror for a period of time from entering into any contracts with the State of Montana.

**FORCE MAJEURE:** Neither party shall be responsible for failure to fulfill its obligations due to causes beyond its reasonable control, including without limitation, acts or omissions of government or military authority, acts of God, materials shortages, transportation delays, fires, floods, labor disturbances, riots, wars, terrorist acts, or any other causes, directly or indirectly beyond the reasonable control of the nonperforming party, so long as such party is using its best efforts to remedy such failure or delays.

**HOLD HARMLESS/INDEMNIFICATION:** The contractor agrees to protect, defend, and save the State, its elected and appointed officials, agents, and employees, while acting within the scope of their duties as such, harmless from and against all claims, demands, causes of action of any kind or character, including the cost of defense thereof, arising in favor of the contractor's employees or third parties on account of bodily or personal injuries, death, or damage to property arising out of services performed or omissions of services or in any way resulting from the acts or omissions of the contractor and/or its agents, employees, representatives, assigns, subcontractors, except the sole negligence of the State, under this agreement.

**LATE BIDS AND PROPOSALS:** Regardless of cause, late bids and proposals will not be accepted and will automatically be disqualified from further consideration. It shall be solely the vendor's risk to ensure delivery at the designated office by the designated time. Late bids and proposals will not be opened and may be returned to the vendor at the expense of the vendor or destroyed if requested.

**PAYMENT TERM:** All payment terms will be computed from the date of delivery of supplies or services OR receipt of a properly executed invoice, whichever is later. Unless otherwise noted in the solicitation document, the State is allowed 30 days to pay such invoices. All contractors will be required to provide banking information at the time of contract execution in order to facilitate State electronic funds transfer payments.

**RECIPROCAL PREFERENCE:** The State of Montana applies a reciprocal preference against a vendor submitting a bid from a state or country that grants a residency preference to its resident businesses. A reciprocal preference is only applied to an invitation for bid for supplies or an invitation for bid for nonconstruction services for public works as defined in section 18-2-401(9), MCA, and then only if federal funds are not involved. For a list of states that grant resident preference, see <http://gsd.mt.gov/procurement/preferences.asp>.

**REFERENCE TO CONTRACT:** The contract or purchase order number MUST appear on all invoices, packing lists, packages, and correspondence pertaining to the contract.

**REGISTRATION WITH THE SECRETARY OF STATE:** Any business intending to transact business in Montana must register with the Secretary of State. Businesses that are incorporated in another state or country, but which are conducting activity in Montana, must determine whether they are transacting business in Montana in accordance with sections 35-1-1026 and 35-8-1001, MCA. Such businesses may want to obtain the guidance of their attorney or accountant to determine whether their activity is considered transacting business.

If businesses determine that they are transacting business in Montana, they must register with the Secretary of State and obtain a certificate of authority to demonstrate that they are in good standing in Montana. To obtain registration materials, call the Office of the Secretary of State at (406) 444-3665, or visit their website at <http://sos.mt.gov>.

**SEPARABILITY CLAUSE:** A declaration by any court, or any other binding legal source, that any provision of the contract is illegal and void shall not affect the legality and enforceability of any other provision of the contract, unless the provisions are mutually dependent.

**SHIPPING:** Supplies shall be shipped prepaid, F.O.B. Destination, unless the contract specifies otherwise.

**SOLICITATION DOCUMENT EXAMINATION:** Vendors shall promptly notify the State of any ambiguity, inconsistency, or error which they may discover upon examination of a solicitation document.

**TAX EXEMPTION:** The State of Montana is exempt from Federal Excise Taxes (#81-0302402).

**TECHNOLOGY ACCESS FOR BLIND OR VISUALLY IMPAIRED:** Contractor acknowledges that no state funds may be expended for the purchase of information technology equipment and software for use by employees, program participants, or members of the public unless it provides blind or visually impaired individuals with access, including interactive use of the equipment and services, that is equivalent to that provided to individuals who are not blind or visually impaired. (Section 18-5-603, MCA.) Contact the State Procurement Bureau at (406) 444-2575 for more information concerning nonvisual access standards.

**TERMINATION OF CONTRACT:** Unless otherwise stated, the State may, by written notice to the contractor, terminate the contract in whole or in part at any time the contractor fails to perform the contract.

**UNAVAILABILITY OF FUNDING:** The contracting agency, at its sole discretion, may terminate or reduce the scope of the contract if available funding is reduced for any reason. (Section 18-4-313(4), MCA.)

**U.S. FUNDS:** All prices and payments must be in U.S. dollars.

**VENUE:** This solicitation is governed by the laws of Montana. The parties agree that any litigation concerning this bid, request for proposal, limited solicitation, or subsequent contract, must be brought in the First Judicial District in and for the County of Lewis and Clark, State of Montana, and each party shall pay its own costs and attorney fees. (Section 18-1-401, MCA.)

**WARRANTIES:** The contractor warrants that items offered will conform to the specifications requested, to be fit and sufficient for the purpose manufactured, of good material and workmanship, and free from defect. Items offered must be new and unused and of the latest model or manufacture, unless otherwise specified by the State. They shall be equal in quality and performance to those indicated herein. Descriptions used herein are specified solely for the purpose of indicating standards of quality, performance, and/or use desired. Exceptions will be rejected.

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Revised 11/06

## SECTION 1: GENERAL REQUIREMENTS

### **1.0 INTRODUCTION**

The STATE OF MONTANA, Department of Public Health & Human Services, State Environmental Laboratory (hereinafter referred to as "the State") is soliciting bids for a "Inductively Coupled Plasma – Mass Spectrometer" in new condition. A more complete description of the supplies and/or services sought is provided in Section 4 of this IFB. Bids submitted in response to this solicitation must comply with the instructions and procedures contained herein.

### **1.1 INSTRUCTIONS TO BIDDERS**

**1.1.1 Procurement Officer Contact Information.** Contact information for the procurement officer is as follows:

Procurement Officer: Jennifer Garza  
Address: 111 N Sanders St., Rm 8  
Telephone Number: 406-444-2851  
Fax Number: 406-444-7358  
E-mail Address: jgarza@mt.gov

**1.1.2 Examination of Solicitation Documents and Explanation to Bidders.** Bidders are responsible for examining the solicitation documents and any addenda issued to become informed as to all conditions that might in any way affect the cost or performance of any work. Failure to do so will be at the sole risk of the bidder. Should the bidder find discrepancies in or omissions from the solicitation documents, or should their intent or meaning appear unclear or ambiguous, or should any other question arise relative to the solicitation documents, the bidder shall promptly notify the Procurement Officer in writing. The bidder making such request will be solely responsible for its timely receipt by the Procurement Officer. Replies to such notices may be made in the form of an addendum to the solicitation.

**1.1.3 Interpretation or Representations.** The State of Montana assumes no responsibility for any interpretation or representations made by any of its officers or agents unless interpretations or representations are incorporated into a formal written addendum to the solicitation.

**1.1.4 Acknowledgment of Addendum.** If the IFB is amended, then all terms and conditions which are not modified remain unchanged. It is the bidder's responsibility to keep informed of any changes to the solicitation. **Bidders must sign and return with their bid an Acknowledgment of Addendum for any addendum issued.** Bids that fail to include an Acknowledgment of Addendum may be considered nonresponsive.

**1.1.5 Extension of Prices.** In the case of error in the extension of prices in the bid, the unit price will govern. In a lot bid, the lot price will govern.

**1.1.6 Bid Preparation Costs.** The costs for developing and delivering responses to this IFB are entirely the responsibility of the bidder. The State is not liable for any expense incurred by the bidder in the preparation and presentation of their bid or any other costs incurred by the bidder prior to execution of a purchase order or contract.

### **1.2 PRE-BID QUESTION & ANSWER PERIOD**

Bidders may submit questions, via email, to Procurement Officer, Jennifer Garza at [jgarza@mt.gov](mailto:jgarza@mt.gov) until 5 pm on Monday 5/12/08. Bidders are encouraged to use this opportunity to ask clarifying questions, obtain a better understanding of the project, or to notify the State of any ambiguities, inconsistencies, or errors discovered upon examination of this IFB. All responses to questions during the Question & Answer period will

be posted to the website as an addendum to the IFB by 5 pm on Wednesday 5/14/08. The addendum must be signed and returned with your bid.

### **1.3 BID SUBMISSION**

**1.3.1 Bids Must Be Sealed and Labeled.** Bids must be sealed and labeled on the outside of the package to clearly indicate that they are in response to IFB0810033-JG. ***Bids must be received at the desk of the Procurement Officer, Jennifer Garza, prior to 2 p.m., local time, 5/27/08.*** All prices and notations must be printed in ink or typewritten. Errors should be crossed out, corrections entered, and initialed by the person signing the bid.

**1.3.2 Late Bids. Regardless of cause, late bids will not be accepted and will automatically be disqualified from further consideration.** It shall be the bidder's sole risk to assure delivery at the receptionist's desk at the designated office by the designated time. Late bids will not be opened and may be returned to the bidder at the expense of the bidder or destroyed if requested.

**1.3.3 Bidder's Signature.** The solicitation must be signed in ink by an individual authorized to legally bind the business submitting the bid. The bidder's signature on a bid in response to this IFB guarantees that the offer has been established without collusion and without effort to preclude the State of Montana from obtaining the best possible supply or service.

**1.3.4 Alternate Bids.** Bidders may submit alternate bids (a bid on supplies other than specified). Alternate bids are considered only if the bidder is the lowest responsible vendor on their primary bid. Bids must be clearly identified as "Primary" and "Alternate."

**1.3.5 Descriptive Literature.** Complete manufacturer's descriptive literature sufficient in detail to establish quality and compliance with all specifications must be submitted with each bid. The State reserves the right to examine products further to determine compliance with the stated specifications.

**1.3.6 Number of bids to be submitted.** Bidder must submit one original and two copies of the bid. Each copy must include copies of all the required attachments, including the Descriptive Literature, Bid Sheet (Front page of bid and Section 5 bid sheet), Workman's Compensation Certificate and Warranty Information.

### **1.4 CHANGE OR WITHDRAWAL OF BIDS**

**1.4.1 Change or Withdrawal PRIOR to Bid Opening.** Should any bidder desire to change or withdraw a bid prior to the scheduled opening, the bidder may do so by making such request in writing to the Procurement Officer listed in Section 1.1.1 above. This communication must be received prior to the date and hour of the bid opening by a request in writing or facsimile to the procurement officer (e-mail notices containing prices are not allowed and will be disqualified).

**1.4.2 Change AFTER Bid Opening But Prior to Bid Award.** After bids are opened, they may not be changed except to correct patently obvious mistakes and minor variations as allowed by ARM 2.5.505. The bidder shall submit verification of the correct bid to the State prior to the final award by the State.

### **1.5 BID AWARDS**

**1.5.1 Basis for Award.** Bid award, if made, will be to the responsive and responsible bidder who offers the lowest cost to the State in accordance with the specifications set forth in the invitation for bid.

**1.5.2 Rejection of Bids.** While the State has every intention to award a contract as a result of this IFB, issuance of the IFB in no way constitutes a commitment by the State of Montana to award and execute a contract. Upon a determination such actions would be in its best interest, the State, in its sole discretion, reserves the right to:

- Cancel or terminate this IFB (18-4-307, MCA);
- Waive any undesirable, inconsequential, or inconsistent provisions of this IFB which would not have significant impact on any bid (ARM 2.5.505); or
- If awarded, terminate any contract if the State determines adequate state funds are not available (18-4-313, MCA).



## SECTION 2: DELIVERY REQUIREMENTS

### **2.0 DELIVERY REQUIREMENTS**

**2.0.1 Delivery Date.** The DELIVERY DATE space on the cover sheet must be completed to indicate day, month, and year, or a specific number of days after receipt of order (ARO). Failure to comply with the requirements may invalidate a bidder's quotation for any or all items.

**2.0.2 Requested Delivery Date.** The Contractor shall deliver all items described in this bid as soon as possible but no later than 45 business days after receipt of purchase order from the State of Montana. Installation and Training must be completed within 14 business days after delivery of machine.

**2.0.3 Shipping.** Weekends and holidays excepted, deliveries shall be **F.O.B. DESTINATION**, to the location shown below. The term "F.O.B. destination, within the State's premises," as used in this clause, means free of expense to the State and delivered to the location specified. The Contractor shall:

- Pack and mark the shipment to comply with specifications; or if the specifications do not contain specific packing or marking instructions, pack and mark the shipment in accordance with prevailing commercial practices and in such a manner as to ensure delivery in good condition and as required by this IFB;
- Prepare and distribute commercial bills of lading and Material Safety Data Sheets (MSDS) as appropriate;
- Deliver the shipment in good order and condition to the point of delivery specified in the IFB;
- Be responsible for any loss of and/or damage to the goods occurring before receipt of the shipment by the State at the delivery point specified in the IFB;
- Furnish a delivery schedule and designate the mode of delivering carrier; and
- Pay and bear all charges to the specified points of delivery.

**2.0.4 Delivery Locations.**

The system must be delivered to and installed at the:  
State Environmental Laboratory, 1400 Broadway Room B-212, Helena MT 59620

## **SECTION 3: SPECIAL TERMS AND CONDITIONS**

### **3.0 PURCHASING CARD**

The State of Montana has a Purchasing Card Program in place that gives agencies the ability to charge purchases made from these contracts. The State of Montana prefers this method of payment.

### **3.1 ON-SITE REQUIREMENTS/CLEANUP**

Each potential contractor should visit the job site to verify measurements and to become fully aware of the conditions relating to the project and the labor requirements. Failure to do so will not relieve the successful contractor of their obligation to furnish all materials and labor necessary to carry out the provisions of the contract.

The Contractor shall adequately protect the work, adjacent property, and the public in all phases of the work. The Contractor shall be responsible for all damages or injury due to their action or neglect.

The Contractor shall maintain access to all phases of the project pending inspection by the State or its representative.

All work rejected as unsatisfactory shall be corrected prior to final inspection and acceptance.

The Contractor shall respond within seven calendar days after notice of observed defects has been given and shall proceed to immediately remedy these defects. Should the Contractor fail to respond to the notice or not remedy the defects, the State may have the work corrected at the Contractor's expense.

In terms of cleanup during and following the installation of the equipment, the Contractor shall:

- (a) Keep the premises free from debris and accumulation of waste;
- (b) Clean up any spills;
- (c) Keep machinery/system clean;
- (d) Remove all construction equipment, tools, and excess materials before final payment by the State.

### **3.2 COMPLIANCE WITH WORKERS' COMPENSATION ACT**

Contractors are required to comply with the provisions of the Montana Workers' Compensation Act while performing work for the State of Montana in accordance with the sections 39-71-401, 39-71-405, and 39-71-417, MCA. Proof of compliance must be in the form of workers' compensation insurance, an independent contractor exemption, or documentation of corporate officer status. Neither the Contractor nor its employees are employees of the State. This insurance/exemption must be valid for the entire term of the contract. A renewal document must be sent to the DPHHS/Central Purchasing Office, 111 N Sanders St, Rm 8, Helena, MT 59620, upon expiration.

### **3.3 INSURANCE REQUIREMENTS**

**3.3.1 General Requirements.** The Contractor shall maintain for the duration of the contract, at its cost and expense, insurance against claims for injuries to persons or damages to property, including contractual liability, which may arise from or in connection with the performance of the work by the Contractor, agents, employees, representatives, assigns, or subcontractors. This insurance shall cover such claims as may be caused by any negligent act or omission.

**3.3.2 Primary Insurance.** The Contractor's insurance coverage shall be primary insurance as respect to the State, its officers, officials, employees, and volunteers and shall apply separately to each project or location. Any insurance or self-insurance maintained by the State, its officers, officials, employees, or volunteers shall be in excess of the Contractor's insurance and shall not contribute with it.

### **3.4 INTELLECTUAL PROPERTY**

All patents and other legal rights in or to inventions created in whole or in part under the contract must be available to the State for royalty-free and nonexclusive licensing. Both parties shall have a royalty-free, nonexclusive, and irrevocable right to reproduce, publish, or otherwise use and authorize others to use, copyrightable property created under the contract.

### **3.5 PATENT AND COPYRIGHT PROTECTION**

**3.5.1 Third Party Claim.** In the event of any claim by any third party against the State that the products furnished under this contract infringe upon or violate any patent or copyright, the State shall promptly notify the Contractor. The Contractor shall defend such claim, in the State's name or its own name, as appropriate, but at the Contractor's expense. The Contractor will indemnify the State against all costs, damages, and attorney's fees that accrue as a result of such claim. If the State reasonably concludes that its interests are not being properly protected, or if principles of governmental or public law are involved, it may enter any action.

**3.5.2 Product Subject of Claim.** If any product furnished is likely to or does become the subject of a claim of infringement of a patent or copyright, then the Contractor may, at its option, procure for the State the right to continue using the alleged infringing product, or modify the product so that it becomes noninfringing. If none of the above options can be accomplished, or if the use of such product by the State shall be prevented by injunction, the State will determine if the contract has been breached.

### **3.6 CONTRACT TERMINATION**

**3.6.1 Termination for Cause with Notice to Cure Requirement.** The State may terminate this contract for failure of the Contractor to perform any of the services, duties, or conditions contained in this contract after giving the Contractor written notice of the stated failure. The written notice must demand performance of the stated failure within a specified period of time of not less than 30 days. If the demanded performance is not completed within the specified period, the termination is effective at the end of the specified period.

**3.6.2 Reduction of Funding.** The State, at its sole discretion, may terminate or reduce the scope of this contract if available funding is reduced for any reason (18-4-313, MCA).

## **SECTION 4: SPECIFICATIONS AND PRICING SCHEDULE**

### **4.0 EQUIVALENT PRODUCTS**

Requirements designated in this bid must be satisfied, or a functional equivalent bid submitted, which is acceptable to the State. Bidders who do not meet this criterion may be disqualified from further consideration. A bidder must state if they are unable or unwilling to meet any requirement. Inability or unwillingness to meet any requirement, in part or total, may be cause for disqualification of the entire response. Any exceptions taken by the bidder must be clearly identified on the bid forms.

### **4.1 PRICES**

**4.1.1 Taxes, Shipping, and Invoicing.** The prices herein specified, unless otherwise expressly stated, shall exclude all taxes and duties of any kind which either party is required to pay with respect to the sale of products covered by this IFB, but shall include all charges and expenses in connection with the packing of the products and their carriage to the place of delivery to the State unless specifically excluded. Bid prices shall include any and all transportation costs. The Contractor shall be paid, except as otherwise stated in this IFB, upon submission of a proper invoice, the prices stipulated herein for products, and/or services delivered to and accepted at the specified State location(s).

**4.1.2 Fixed Price Contract.** All prices are fixed for the duration of the contract and are not subject to escalation for any cause. Payment of the total fixed bid price shall constitute full payment for performance of the work and covers all costs of whatever nature incurred by the Contractor in accomplishing the work in accordance with the provisions of the contract.

### **4.2 SPECIFICATIONS AND PRICING SCHEDULE**

**4.2.1 Name of Supply or Service.** A new "Inductively Coupled Plasma – Mass Spectrometer" with full PC control of all instrument and autosampler settings.

**4.2.2 Purpose/Use for Supply or Service.** The State of Montana Environmental Laboratory is soliciting bids for a new "Inductively Coupled Plasma – Mass Spectrometer" with full PC Control of all instrument and autosampler settings. This instrument will be used for the analysis of heavy metals in liquid matrices derived from numerous sources, including waters and extracts from solid samples. The instrument will be used for six to eight hours per day in a high-throughput environmental laboratory.

### **4.3 MINIMUM CRITERIA FOR THE SYSTEM**

**4.3.1 General System Specifications.** Minimum criteria:

- Liquid sample introduction system, RF plasma ion source, single lens focusing system
- An interference removal system must be available that reduces spectroscopic interferences on elements such as As, Se, and Fe
- Automatic system startup, shutdown and optimization and computer controlled instrument tuning for optimum performance.
- Lens transmission voltage and quadrupole resolution settings are dynamically scanned as each element is analyzed.
- All spectrometer components, including vacuum pumps contained in a single cabinet with venting/cooling design for clean room usage.

- Modern monitoring of system diagnostics for remote service trouble shooting and remote operation of system.
- All analytical system operations from component optimization to methods development to calibration to analysis to reports are performed using a single software program.
- Full system uses single-phase power and remains in specification as laboratory temperature varies 10 to 35°C at up to 2°C per hour.
- Heat exchanger to cool interface.
- Full compliance with US EPA methodology for Method 200.8 and Method SW 846-6020.

**Specific Subsystem Requirements are the following:**

**4.3.2 Sample Introduction.** Minimum Criteria:

- For general sample workload, an all-quartz sample introduction system: quartz Meinhard nebulizer, quartz spray chamber, and quartz injector.
- An HF resistant sample introduction available as an option consisting of: cross-flow nebulizer, Rytan Scott-type dual pass spray chamber, and alumina injector.
- Close coupled, three-channel integral peristaltic pump, computer controlled with automatic start, stop and tubing saver mode.
- Sample introduction components must be mounted outside torch enclosure to eliminate the need for extraneous spray chamber cooling hardware and for easy access of alternate components.

**4.3.3 Ion Source and RF Plasma.** Minimum criteria:

- Computer controlled 40 MHz RF generator operating from 500 to 1600 watts for automatic control of torch ignition, shutdown, and system warm up.
- The RF generator must electrically decouple the plasma from the ion optics and allow independent adjustment of the ion optic parameters and the plasma conditions.
- The RF generator must produce an inherently low ion energy distribution for the sampled ions
- The RF Generator and load coil must not require water cooling.
- Plasma ignition shall be accomplished without having to move the torch from the analytical position
- Plasma torch assembly shall be removable for service as a cassette.

**4.3.4 Ion Extraction Interface.** Minimum criteria:

- Standard large orifice Pt sampling and skimming cones with 1.1 and 0.9 mm diameters respectively to prevent clogging and minimize signal drift.
- Rapid mounting and removal cone design, requiring no screws
- The tip of the skimmer cone must not project out beyond the plane of the mounting surface for the sampler cone, to protect the skimmer from damage during routine maintenance procedures.
- To reduce maintenance requirements and system background equivalent concentrations (BECs), the system must not utilize a high voltage extraction lens behind the skimmer cone.

#### **4.3.5 Ion Focusing Lens System.** Minimum criteria:

- The ion lens system must consist of a single component which is automatically adjusted for each element across the mass range during each mass scan, on the fly, by computer control to maximize element signal intensity and minimize matrix interference. The ion focusing system should consist of a single lens and must be preceded by a shadow stop to eliminate the noise from photons and neutrals produced the plasma.
- The shadow stop shall prevent the contamination of the ion focusing system by intercepting non-ionized material produced by the plasma.
- The lens system shall be a user serviceable and replaceable item.
- The ion lens shall not require any servicing procedures by the manufacturers' service representative throughout the life of the instrument.
- The lens system should not use any small parts, including electrical spacers, screws, and washers that can become lost during maintenance procedures.
- The lens system should not use components that could be inadvertently reassembled in improper order during routine maintenance, rendering the instrument unusable.

#### **4.3.6 Quadrupole.** Minimum criteria:

- The quadrupole mass filter shall utilize gold metallized ceramic rod technology for best stability and operate at 2.5 MHz for exceptional resolution and abundance sensitivity.
- Stability of the quadrupole mass calibration and resolution shall be maintained by having critical parts of the quadrupole power supply temperature controlled.
- The analyzer quadrupole must have the ability to discretely control the resolution of selected mass regions dynamically, without affecting the overall nominal resolution of the system for non-"custom-controlled" mass regions.

#### **4.3.7 Ion Detector Assembly.** Minimum criteria:

- The ion detector is a simultaneous dual-stage ETP discrete dynode electron multiplier, and allows element concentration calibration over a full 9 orders magnitude of dynamic range in a single scan using both analog and pulse ion counting mode, and is protected against overload in both pulse counting and analog modes.
- The dual-stage detector assembly must come standard with the system.

#### **4.3.8 Vacuum System.** Minimum criteria:

- Triple stage vacuum system utilizing a dual-inlet turbomolecular pump to maintain vacuum at less than 1e-5 Torr during analysis, includes vacuum chamber isolation valve which automatically closes as plasma is extinguished or with system faults. The pumping system shall have enough capacity to reach operating vacuum from atmosphere in less than 10 minutes.
- In the event of vacuum failure, the entire vacuum system is to be automatically back-filled by inert gas to preserve the cleanliness of the system.
- Turbomolecular vacuum pump must be purged by an inert gas during operation to prevent damage by reactive gases and/or corrosive vapors such as those generated by the analysis of phosphoric acid.

#### **4.3.9 System Controller and Operating System.** Minimum criteria:

- Pentium 4, 256 Mbytes RAM, 512 K cache, 4 MB Video Memory, 40 GByte IDE Hard Drive, 3.5" Floppy, CD-RW drive, 10/100 Mbps Networking, Windows XP Professional loaded.
- 21" XGA color graphics monitor.
- An HP Laser Jet Printer.

#### **4.3.10 System Software.** Minimum criteria:

- The system software shall support the following calibration curve fit modes for Quantitative analysis:
  - Linear least squares.
  - Weighted linear least squares.
  - Linear forced-through-zero least squares.
  - Method of standard additions.
  - Additions calibration.
- Real time graphics with ability to display transient and continuous signal profiles.
- Quantitative analysis including external calibration, additions calibrations, method of standard additions, isotope ratios and isotope dilution's and semiquantitative analysis.
- All analytical raw data must be retained and stored on hard disk, encrypted to prevent tampering per US EPA requirement to support a complete data audit trail.
- Per EPA methods requirements the time and date must be printed on each sheet of data generated by the system printer.
- Per EPA methods requirements, the quadrupole must be able to be tuned or mass calibrated on a minimum of 5 elements (Be, Co, In, Mg, Pb), providing a printed mass calibration report with all elements.
- QC protocol limits on measured values, allowing the analyst to define when and how an action is taken, and to specify a second QC action for automatic operation in the event that the first action fails.
- On-line help with quick steps to reference entire instrument user manual.
- Data reprocessing on stored data without re-running samples for changes of calibration points, internal standard points or curve fit mode.
- System must be capable of supporting a syringe-pump based autodilution system.
- The software must support autodilutions by both a global dilution factor and serial dilutions for samples out of range.
- All sample results shall presented in a single report incorporating all the modes of measurement utilized (e.g. vented and pressurized modes) during the sample analysis.

#### **4.3.11 Performance Specifications.** Minimum criteria:

The ICP-MS system must meet the following performance specifications:

- Detection Limits based on three times the standard deviation of the blank and three-second integration time using peak hopping at 1 point per mass.

All less than or equal to in *ng/L (ppt)*

${}^9\text{Be} < 6$

${}^{59}\text{Co} < 1.0$

${}^{115}\text{In} < 0.2$

${}^{238}\text{U} < 0.2$

$$^{56}\text{Fe} < 0.7$$

$$^{40}\text{Ca} < 2.0$$

- Sensitivity as  $M$  cps/mg/L

$$^{24}\text{Mg} > 8$$

$$^{115}\text{In} > 40$$

$$^{238}\text{U} > 30$$

$$^{56}\text{Fe} > 40$$

- Oxide and Doubly Charged Species must be measured without the use of a desolvation device such as a chilled spray chamber, and using the same operating conditions used to achieve sensitivity, detection limit, short and long term precision specifications.

$$\text{CeO}^+/\text{Ce}^+ < 3\%$$

$$\text{Ba}^{+2}/\text{Ba}^+ < 3\%$$

- Interference Reduction, defined as the background equivalent concentration (BEC) in ultra pure water for:

$$^{40}\text{Ar} < 10 \text{ ppt as Ca}$$

$$^{56}\text{ArO} < 4 \text{ ppt as Fe}$$

$$^{80}\text{Ar}_2 < 10 \text{ ppt as Se}$$

measured using standard hot-plasma conditions, 1000W or higher.

- Background Signal as mean cps:

$$\text{Mass } 220 < 2 \text{ cps}$$

- Short Term Precision, defined as the coefficient of variation (% RSD) for a 1  $\mu\text{g/L}$  multielement solution, measuring  $^{24}\text{Mg}$ ,  $^{115}\text{In}$  and  $^{238}\text{U}$ , over a period of 3 minutes, without the use of an internal standard.  
< 4% RSD

- Long-term Stability, relative stability after a one hour warm-up. Defined as the standard deviation of the mean signal for  $^{24}\text{Mg}$ ,  $^{63}\text{Cu}$ ,  $^{114}\text{Cd}$  and  $^{208}\text{Pb}$  in a 1  $\mu\text{g/L}$  multielement solution, measured once every ten minutes, using no internal standardization:  
< 4% RSD over 4 hours

- Mass Calibration Stability, measured using a 10  $\mu\text{g/L}$  multielement solution containing  $^{24}\text{Mg}$ ,  $^{103}\text{Rh}$  and  $^{208}\text{Pb}$ . Defined in terms of the shift in spectral position corresponding to maximum spectral peak intensity for each element, obtained without the use of multiple point, peak-searching algorithms.  
< 0.05 AMU, over 8 hours of continuous operation

- Abundance Sensitivity, defined as the intensity of a given isotope at spectral peak maximum, relative to the intensity of that isotope at one amu lower, and at one amu higher than the mass position corresponding to peak maximum.

Measured at  $^{23}\text{Na}$ :

*Better than  $1.0 \times 10^6$  at low mass side of peak. Better than  $1.0 \times 10^7$  at high mass side of peak*

- Sample Washout, measured after introduction of a 1% nitric acid solution immediately following continuous aspiration of 100  $\mu\text{g/L}$  Rh for one minute:

*Signal for  $^{103}\text{Rh}$  drops by at least three orders of magnitude in less than 30 seconds.*



**4.3.12 Autosampler.** Minimum criteria:

- The system must include a random access autosampler capable of holding 150 or more 15 mL sample vessels.
- The autosampler will be fully computer-controlled to allow unattended operation.

**4.3.13 Installation, Training and Service.** Minimum criteria:

- The instrument must be installed by a certified installer, and will include on-site training.
- Installation and training must occur within 14 business days after delivery of machine. Delivery must occur within 45 business days after receipt of purchase order, as stated in Section 2.0.
- Contractor to provide 2 – 3 days of training at the end-user's site by a factory trained installation chemist.
- Any special requirements (including but not limited to, electrical requirements) must be stated on the bid.

**4.3.14 Operation/Service/Parts/Training Manuals.** Minimum criteria:

- Contractor must provide all Operation, Service, Parts, and Training Manuals. A complete original manufacturer's operation manual, written in English, must be provided for each item of equipment. A complete original manufacturer's service manual must be provided for each item of equipment. This manual, written in English, must include, but is not limited to, electronic schematics and technical service information to allow for complete service and repair of the equipment. Additionally, a complete original manufacturer's training manual must be provided for the system. Photocopies or other reproductions will not be accepted. The manuals must be provided at the time of installation of the system.

**4.3.15 Warranty, Repair, and Replacement.** Minimum criteria:

- A one (1) year warranty is required. Provide warranty and maintenance policy details. Attach any warranty documentation. Identify factors covered by warranty and service, such as 100% parts, 100% labor, pick up and delivery, on-site repair, loaner of equivalent equipment provided if removal from site is necessary, etc.
- A standard one year warranty will apply, and there shall be an option for the instrument purchaser to purchase an extended warranty or service contract for two additional years.

## **4.4 Payment**

Vendor to submit invoice upon delivery. Payment will be rendered within thirty business days after successful installation of system and completed training of staff.

## SECTION 5: Bid Sheet

**5.0 Bid Sheet.** Complete the following information and return this sheet with your bid. This sheet along with the other required documents will be used during the evaluation process.

- **Vendor Name:** \_\_\_\_\_
  
- **All inclusive Cost (Equipment, Delivery, Installation, Training & 1 year Maintenance Agreement):**  
\_\_\_\_\_
  
- **Cost of years 2 & 3 of Maintenance Agreement:**  
\_\_\_\_\_
  
- **Brand** \_\_\_\_\_
  
- **Model/Make** \_\_\_\_\_
  
- **Special requirements/considerations (including but not limited to, electrical requirements):**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
  
- **Highlight the information on the descriptive literature showing that the criteria from Section 4.3, parts 4.3.1 through 4.3.12, has been met. If the specified criteria are not stated on the descriptive literature, attach a document on company letterhead addressing the criteria.**
  
- **In addition to this bid sheet, remember to include the following required documents with your bid:**
  - **Cover Sheet from Invitation for Bid document, completing the Bidders Information section. This is the first page of the document.**
  - **Descriptive Literature referred to in Section 1.3.5**
  - **Workers Compensation Certificate referred to in Section 3.2**
  - **Warranty Information referred to in Section 4.3.15**

## IFB Checklist

Have you remembered to:

- Check our website for the latest addendum to the IFB
- Sign each "Acknowledgment of Addendum" if required
- Sign your bid on our cover sheet
- Mark your mailing envelope or box with the IFB number and the opening date under your return address
- Carefully review the "Standard Terms and Conditions"
- Carefully review all listed requirements to ensure compliance with the IFB
- Initial all bid/pricing changes you made
- Bid F.O.B. Destination (Ship To: Address) Freight Prepaid